223. A method according to claim 221 or 222, wherein the host cell has been transformed or transfected with a polynucleotide comprising a nucleotide sequence that encodes a Hu-Asp2, wherein said nucleotide sequence is selected from the group consisting of:

(a) a nucleotide sequence encoding the Hu-Asp2(a) amino acid sequence set forth in SEQ ID NO: 4;

(b) a nucleotide sequence encoding the Hu-Asp2(b) amino acid sequence set forth in SEQ ID NO: 6;

(c) a nucleotide sequence encoding a fragment of Hu-Asp2(a) (SEQ ID NO: 4) or Hu-Asp2(b) (SEQ ID NO: 6), wherein said fragment exhibits aspartyl protease activity characteristic of Hu-Asp2(a) or Hu-Asp2(b); and

(d) a nucleotide sequence of a polynucleotide that hybridizes under stringent hybridization conditions to a Hu-Asp2-encoding polynucleotide selected from the group consisting of SEQ ID NO: 3 and SEQ ID NO: 5.

224. A method according to claim 223, further comprising a step of treating Alzheimer's Disease with an agent identified as an inhibitor of Hu-Asp2 according to steps (a)-(c).

225. A method according to claim 221, further comprising a step of making a medicament for the treatment of Alzheimer's Disease with a test agent identified as an inhibitor according to steps (a)-(c).

226. A method of reducing cellular production of amyloid beta (Aβ) from amyloid precursor protein (APP), comprising step of transforming or transfecting cells with an anti-sense reagent capable of reducing Asp2 polypeptide production by reducing Asp2 transcription or translation in the cells, wherein reduced Asp2 polypeptide production in the cells correlates with reduced cellular processing of APP into Aβ.

227. A method of reducing cellular production of amyloid beta (Aβ) from amyloid precursor protein (APP), comprising steps of:

(a) identifying mammalian cells that produce Aβ; and

(b) transforming or transfecting the cells with an anti-sense reagent capable of reducing Asp2 polypeptide production by reducing Asp2 transcription or translation in the cells, wherein reduced Asp2 polypeptide production in the cells correlates with reduced cellular processing of APP into Aβ.

228. A method according to claim 227, wherein the identifying step comprises diagnosing Alzheimer's disease, where Alzheimer's disease correlates with the existence of cells that produce Aβ that forms amyloid plaques in the brain.

229. A method according to claim 226, wherein the cell is a neural cell.

230. A method according to claim 226, wherein the anti-sense reagent comprises an oligonucleotide comprising a single stranded nucleic acid sequence capable of binding to a Hu-Asp mRNA.

231. A method according to claim 226, wherein the anti-sense reagent comprises an oligonucleotide comprising a single stranded nucleic acid sequence capable of binding to a Hu-Asp DNA.

232. A polypeptide comprising the amino acid sequence of a mammalian amyloid protein precursor (APP) or fragment thereof containing an APP cleavage site recognizable by a mammalian β-secretase, and further comprising two lysine residues at the carboxyl terminus of the amino acid sequence of the mammalian APP or APP fragment.

233. A polypeptide according to claim 232 comprising the amino acid sequence of a mammalian amyloid protein precursor (APP), and further comprising two lysine residues at the carboxyl terminus of the amino acid sequence of the mammalian amyloid protein precursor.

234. A polypeptide according to claim 232, wherein the mammalian APP is a human APP.

235. A polypeptide according to claim 232, wherein the human APP comprises at least one variation selected from the group consisting of a Swedish KM→NL mutation and a London V717→F mutation.

236. A polynucleotide comprising a nucleotide sequence that encodes a polypeptide according to claim 232.

237. A vector comprising a polynucleotide according to claim 236.

238. A vector according to claim 237 wherein said polynucleotide is operably linked to a promoter to promote expression of the polypeptide encoded by the polynucleotide in a host cell.

239. A host cell transformed or transfected with a polynucleotide according to claim 86 or a vector according to claim 237.

240. A host cell according to claim 239 that is a mammalian cell.